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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/413,792	10/07/1999	PATRICK ROSS TRISCHITTA	04787.81749	2431

7590 04/03/2006

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EXAMINER	
SINGH, DALZID E	
ART UNIT	**PAPER NUMBER**
2613	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/413,792	TRISCHITTA, PATRICK ROSS	
	Examiner	Art Unit	
	Dalzid Singh	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-15 and 20-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-15 and 20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Transitional After Final Practice

1. The finality of the previous Office action has been vacated and the new office action is as follows:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-15 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art disclosed by applicant as Figs. 2 and 4 (hereinafter "reference 1") in view of Kawano (US Patent No. 5,526,157).

Regarding claim 1, reference 1 shows a system for providing communications between communication devices located on different landmasses, comprising:

first (401) and second (402) cables, wherein each of said first and second cables further comprises one or more data signal carrying lines and an electrical power conductor, wherein said first cable carries data signals between communication devices of a first landmass (B) and a second landmass (A), and said second cable carries data signals between communication devices of the first landmass (B) and a third landmass (C) said first landmass being, separated from said second and third landmasses by a body of water (since the prior art show undersea communication network, therefore it

would have been obvious that the communication system communicates data; furthermore, Fig. 2 of reference 1 shows cross-sectional section of the underwater cable which comprise of power conductor (203) and optical fibers (202) to carry data signals),

a first piece of power feed equipment (403) having positive and negative terminals located on the second landmass (A) wherein said positive terminal of said first piece of power feed equipment is electrically connected to said electrical power conductor of said first cable (Fig. 4 only shows positive terminal on the second landmass (A), however, it would have been obvious that there exist a negative terminal); and

a second piece of power feed (406) equipment having positive and negative terminals located on the third landmass (C) wherein said negative terminal of said second piece of power feed equipment is electrically connected to said electrical power conductor of said second cable (Fig. 4 only shows negative terminal on the third landmass (C), however, it would have been obvious that there exist a positive terminal).

Reference 1 discloses undersea communication system as discussed above and differs from the claimed invention in that reference 1 does not disclose an electrical power connector located on said first landmass and connecting said electrical power conductors of said first and second cables so that electrical current can flow between said first and second power feed equipment through said power conductors of said first and second cables, wherein no separate current source is coupled to said electrical power connector on said first landmass, and wherein said electrical power connector permanently connects said electrical power conductors of said first and second cables

without providing a switch between said electrical power conductors of said first and second cables. However, connecting two cables without the use of a switch is well known. In col. 2, lines 17-38 and Fig. 1, Kawano teaches connecting opposite ends of submarine cables. In col. 6, lines 14-24, Kawano further teaches that submarine optical cable comprises of power supply line which supply power to different terminals. As in Fig. 11, Kawano shows directly supplying power from terminal station (21) to another terminal station (22) (see col. 6, lines 31-49). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide power from one terminal station to other terminal stations as taught by Kawano. One of ordinary skill in the art would have been motivated to do such in order to reduce or eliminate unnecessary sources.

Regarding claim 3, the combination of reference 1 and Kawano shows positive terminal of first power feed equipment and negative terminal of second power feed equipment coupled to the cables (see Fig. 4 of reference 1) and differs from the claimed invention in that the combination does not show the negative terminal of said first piece of power feed equipment and said positive terminal of said second piece of power feed equipment are electrically connected to a ground potential. However, it well known to coupled the other terminal to ground potential in order to form common ground for both power feed equipments.

Regarding claim 4, as shown in Fig. 4, reference 1 shows the first (401) and second cables (402) carry optical signals, and each includes one or more optical repeaters (103).

Regarding claim 5, as shown in Fig. 4, reference 1 shows end of said first cable (401) and an end of said second cable (402) enter onto a first landmass (B) at a common landing point (the common landing point is landmass (B)).

Regarding claim 6, the combination of reference 1 and Kawano shows first and second cable at landmass (B) and differ from the claimed invention in that the combination does not specifically disclose that ends of said first and second cables are routed to a cable station, and said electrical power connector is located in said cable station. However, since the cables disclosed by reference 1 and Kawano carry data and power, therefore it would have been obvious that the first and second cable are routed to a cable station. One of ordinary skill in the art would have been motivated to route the cables to a cable station in order to provide services to customers.

Regarding claim 7, the combination of reference 1 and Kawano shows plurality of data carrying lines (see Fig. 2 of reference 1) and differs from the claimed invention in that the combination does not specifically disclose that the data lines are communicatively coupled to a communication device of a first communication network located on the first landmass. However, since the cables disclosed by reference 1 and Kawano carry data, therefore it would have been obvious that the data lines are communicatively coupled to communication device. Furthermore, it would have been obvious that the communication networks are located on a landmass such as first landmass.

Regarding claim 8, the combination of reference 1 and Kawano shows plurality of data carrying lines (see Fig. 2 of reference 1) for carrying data signals and differs from

the claimed invention in that the combination does not specifically disclose that one or more data signal carrying lines of said first cable are communicatively coupled using a converter for converting between optical and electrical signals. However, since the submarine cable carries optical signal and the customer premise, which receives the signal, operates in electrical domain, therefore, it would have been obvious to provide converter in order to convert the optical signal to an electrical signal.

Regarding claim 9, as shown in Fig. 4, reference 1 shows that signal carrying lines of said first cable (401) are communicatively isolated from said signal carrying lines of said second cable (402) (since the signal carrying lines of the first and second cable are not connected, therefore, they are communicatively isolated).

Regarding claim 10, the combination of reference 1 and Kawano shows different landmasses (A, B, C) coupled by different signal carrying cables (401, 402) (see Fig. 4 of reference 1) and differs from the claimed invention in that the combination does not specifically disclose that the signal carrying lines of said first cable carry different signals from signals carried on said signal carrying lines of said second cable. However, since the cables are coupled to different landmasses comprising of customer, therefore it would have been obvious that the cables carry different signal in order to provide various services to the customer.

Regarding claim 11, reference 1 shows a system for providing communications between communication devices located on different landmasses, comprising:

a first cable station located on a first landmass (B), having a first piece of power feed equipment (403) (since the cables (401 or 402) carry data, therefore it would have been obvious that there exist a cable station to receive the data signal);

a second cable station located on a second landmass (C), having a second piece of power feed equipment (406) (since the cables (401 or 402) carry data, therefore it would have been obvious that there exist a cable station to receive the data signal);

a plurality of cable segments (401 and 402), each connecting communication networks of two landmasses (A and C), wherein each of said plurality of cable segments includes an electrical power conductor (see Fig. 2 for cross-sectional view of the cable comprising of power conductor (203) and data lines signal (202)) and one or more data signal carrying lines, and wherein said electrical power conductors of said plurality of cable segments are electrically connected in series between a positive terminal of said first piece of power equipment (403) and a negative terminal of said second piece of power feed equipment (406);

one additional landmass (B), said at least one additional landmass being separated from said first and second landmasses by a body of water.

Reference 1 discloses undersea communication system as discussed above and differ from the claimed invention in that reference 1 does not disclose an electrical power connector located on said additional landmass, said at least one electrical power connector permanently connecting said electrical power conductors without providing a switch between said electrical power conductors, and wherein no separate current source is coupled to said electrical power connector on said at least one additional

landmass. However, connecting two cables without the use of a switch is well known. In col. 2, lines 17-38 and Fig. 1, Kawano teaches connecting opposite ends of submarine cables. In col. 6, lines 14-24, Kawano further teaches that submarine optical cable comprises of power supply line which supply power to different terminals. As in Fig. 11, Kawano shows directly supplying power from terminal station (21) to another terminal station (22) (see col. 6, lines 31-49). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide power from one terminal station to other terminal stations as taught by Kawano. One of ordinary skill in the art would have been motivated to do such in order to reduce or eliminate unnecessary sources.

Regarding claim 12, in Fig. , reference 1 shows one of said plurality of cable segments (401 or 402) includes a device (103) powered by an electrical current carried on said electrical power conductor of said one of said plurality of cable segments.

Regarding claim 13, in Fig. 2, reference 1 shows that the device is an optical repeater (103), and one of said data signal carrying lines within said one of said plurality of cable segments is an optical fiber (see page 3 of specification).

Regarding claim 14, in Fig. 4, reference 1 shows that the data signal carrying lines of one of said plurality of cable segments includes a plurality of continuous optical fibers.

Regarding claim 15, in Fig. 4, reference 1 shows that the data signal carrying lines of said plurality of cable segments. Since cable stations may be coupled to the cable segments, therefore it would have been obvious to an artisan of ordinary skill in

the art to provide connection of the cable station to the cable segment such that the cable segments are not connected in series between said first and second cable stations. One of ordinary skill in the art would have been motivated to do this in order to maintain continuous operation of the cable stations in the event of faulty cable segment.

Regarding claims 20 and 22, as discussed above, the combination of reference 1 and Kawano discloses branching unit for connecting cables of different landmasses and differ from the claimed invention in that the combination does not specifically disclose that the electrical power connector (branching unit) comprises an insulated copper cable. However, it is well known that electrical signal traveling on copper generates electromagnetic filed. Such field causes interference with other electronic devices. Therefore, based on this it would have been obvious to provide insulator to the copper lines in order to reduce or eliminate electromagnetic interference.

Regarding claims 21 and 23, the combination of reference 1 and Kawano shows electrical power connector comprises a power conductor of a connector cable segment comprising one or more lines configured for carrying data signals.

4. Claims 1, 3-15 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art disclosed by applicant as Figs. 2 and 4 (hereinafter "reference 1") in view of Tomosugi (JP 57099042).

Regarding claim 1, reference 1 shows a system for providing communications between communication devices located on different landmasses, comprising:

first (401) and second (402) cables, wherein each of said first and second cables further comprises one or more data signal carrying lines and an electrical power conductor, wherein said first cable carries data signals between communication devices of a first landmass (B) and a second landmass (A), and said second cable carries data signals between communication devices of the first landmass (B) and a third landmass (C) said first landmass being, separated from said second and third landmasses by a body of water (since the prior art show undersea communication network, therefore it would have been obvious that the communication system communicates data; furthermore, Fig. 2 of reference 1 shows cross-sectional section of the underwater cable which comprise of power conductor (203) and optical fibers (202) to carry data signals),

a first piece of power feed equipment (403) having positive and negative terminals located on the second landmass (A) wherein said positive terminal of said first piece of power feed equipment is electrically connected to said electrical power conductor of said first cable (Fig. 4 only shows positive terminal on the second landmass (A), however, it would have been obvious that there exist a negative terminal); and

a second piece of power feed (406) equipment having positive and negative terminals located on the third landmass (C) wherein said negative terminal of said second piece of power feed equipment is electrically connected to said electrical power conductor of said second cable (Fig. 4 only shows negative terminal on the third landmass (C), however, it would have been obvious that there exist a positive terminal).

Reference 1 discloses undersea communication system as discussed above and differs from the claimed invention in that reference 1 does not disclose an electrical power connector located on said first landmass and connecting said electrical power conductors of said first and second cables so that electrical current can flow between said first and second power feed equipment through said power conductors of said first and second cables, wherein no separate current source is coupled to said electrical power connector on said first landmass, and wherein said electrical power connector permanently connects said electrical power conductors of said first and second cables without providing a switch between said electrical power conductors of said first and second cables. However, connecting two cables without the use of a switch is well known. Shown in Fig. 2, Tomosugi shows separate cables (6) connected to power source (7) located at intermediate location. Such arrangement could be modified to provide a single connection connecting power source from one terminal (1) station to the other terminal (2) station without the use of power source located at intermediate location (see Fig. 1). Fig. 1 shows continuous cable connection between terminals (1) and (2). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide power from one terminal station to other terminal stations without a switch as taught by Tomosugi. One of ordinary skill in the art would have been motivated to do such in order to reduce or eliminate unnecessary sources.

Regarding claim 3, the combination of reference 1 and Tomosugi shows positive terminal of first power feed equipment and negative terminal of second power feed

equipment coupled to the cables (see Fig. 4 of reference 1) and differs from the claimed invention in that the combination does not show the negative terminal of said first piece of power feed equipment and said positive terminal of said second piece of power feed equipment are electrically connected to a ground potential. However, it well known to coupled the other terminal to ground potential in order to form common ground for both power feed equipments.

Regarding claim 4, as shown in Fig. 4, reference 1 shows the first (401) and second cables (402) carry optical signals, and each includes one or more optical repeaters (103).

Regarding claim 5, as shown in Fig. 4, reference 1 shows end of said first cable (401) and an end of said second cable (402) enter onto a first landmass (B) at a common landing point (the common landing point is landmass (B)).

Regarding claim 6, the combination of reference 1 and Tomosugi shows first and second cable at landmass (B) and differ from the claimed invention in that the combination does not specifically disclose that ends of said first and second cables are routed to a cable station, and said electrical power connector is located in said cable station. However, since the cables disclosed by reference 1 and Tomosugi carry data and power, therefore it would have been obvious that the first and second cable are routed to a cable station. One of ordinary skill in the art would have been motivated to route the cables to a cable station in order to provide services to customers.

Regarding claim 7, the combination of reference 1 and Tomosugi shows plurality of data carrying lines (see Fig. 2 of reference 1) and differs from the claimed invention in

that the combination does not specifically disclose that the data lines are communicatively coupled to a communication device of a first communication network located on the first landmass. However, since the cables disclosed by reference 1 and Tomosugi carry data, therefore it would have been obvious that the data lines are communicatively coupled to communication device. Furthermore, it would have been obvious that the communication networks are located on a landmass such as first landmass.

Regarding claim 8, the combination of reference 1 and Tomosugi shows plurality of data carrying lines (see Fig. 2 of reference 1) for carrying data signals and differs from the claimed invention in that the combination does not specifically disclose that one or more data signal carrying lines of said first cable are communicatively coupled using a converter for converting between optical and electrical signals. However, since the submarine cable carries optical signal and the customer premise, which receives the signal, operates in electrical domain, therefore, it would have been obvious to provide converter in order to convert the optical signal to an electrical signal.

Regarding claim 9, as shown in Fig. 4, reference 1 shows that signal carrying lines of said first cable (401) are communicatively isolated from said signal carrying lines of said second cable (402) (since the signal carrying lines of the first and second cable are not connected, therefore, they are communicatively isolated).

Regarding claim 10, the combination of reference 1 and Tomosugi shows different landmasses (A, B, C) coupled by different signal carrying cables (401, 402) (see Fig. 4 of reference 1) and differs from the claimed invention in that the combination

does not specifically disclose that the signal carrying lines of said first cable carry different signals from signals carried on said signal carrying lines of said second cable. However, since the cables are coupled to different landmasses comprising of customer, therefore it would have been obvious that the cables carry different signal in order to provide various services to the customer.

Regarding claim 11, reference 1 shows a system for providing communications between communication devices located on different landmasses, comprising:

a first cable station located on a first landmass (B), having a first piece of power feed equipment (403) (since the cables (401 or 402) carry data, therefore it would have been obvious that there exist a cable station to receive the data signal);

a second cable station located on a second landmass (C), having a second piece of power feed equipment (406) (since the cables (401 or 402) carry data, therefore it would have been obvious that there exist a cable station to receive the data signal);

a plurality of cable segments (401 and 402), each connecting communication networks of two landmasses (A and C), wherein each of said plurality of cable segments includes an electrical power conductor (see Fig. 2 for cross-sectional view of the cable comprising of power conductor (203) and data lines signal (202)) and one or more data signal carrying lines, and wherein said electrical power conductors of said plurality of cable segments are electrically connected in series between a positive terminal of said first piece of power equipment (403) and a negative terminal of said second piece of power feed equipment (406);

one additional landmass (B), said at least one additional landmass being separated from said first and second landmasses by a body of water.

Reference 1 discloses undersea communication system as discussed above and differ from the claimed invention in that reference 1 does not disclose an electrical power connector located on said additional landmass, said at least one electrical power connector permanently connecting said electrical power conductors without providing a switch between said electrical power conductors, and wherein no separate current source is coupled to said electrical power connector on said at least one additional landmass. However, connecting two cables without the use of a switch is well known. Shown in Fig. 2, Tomosugi shows separate cables (6) connected to power source (7) located at intermediate location. Such arrangement could be modified to provide a single connection connecting power source from one terminal (1) station to the other terminal (2) station without the use of power source located at intermediate location (see Fig. 1). Fig. 1 shows continuous cable connection between terminals (1) and (2). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide power from one terminal station to other terminal stations without a switch as taught by Tomosugi. One of ordinary skill in the art would have been motivated to do such in order to reduce or eliminate unnecessary sources.

Regarding claim 12, in Fig. , reference 1 shows one of said plurality of cable segments (401 or 402) includes a device (103) powered by an electrical current carried on said electrical power conductor of said one of said plurality of cable segments.

Regarding claim 13, in Fig. 2, reference 1 shows that the device is an optical repeater (103), and one of said data signal carrying lines within said one of said plurality of cable segments is an optical fiber (see page 3 of specification).

Regarding claim 14, in Fig. 4, reference 1 shows that the data signal carrying lines of one of said plurality of cable segments includes a plurality of continuous optical fibers.

Regarding claim 15, in Fig. 4, reference 1 shows that the data signal carrying lines of said plurality of cable segments. Since cable stations may be coupled to the cable segments, therefore it would have been obvious to an artisan of ordinary skill in the art to provide connection of the cable station to the cable segment such that the cable segments are not connected in series between said first and second cable stations. One of ordinary skill in the art would have been motivated to do this in order to maintain continuous operation of the cable stations in the event of faulty cable segment.

Regarding claims 20 and 22, as discussed above, the combination of reference 1 and Tomosugi discloses branching unit for connecting cables of different landmasses and differ from the claimed invention in that the combination does not specifically disclose that the electrical power connector (branching unit) comprises an insulated copper cable. However, it is well known that electrical signal traveling on copper generates electromagnetic filed. Such field causes interference with other electronic devices. Therefore, based on this it would have been obvious to provide insulator to the copper lines in order to reduce or eliminate electromagnetic interference.

Regarding claims 21 and 23, the combination of reference 1 and Tomosugi shows electrical power connector comprises a power conductor of a connector cable segment comprising one or more lines configured for carrying data signals.

5. Claims 1, 3-15 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art disclosed by applicant as Figs. 2 and 4 (hereinafter "reference 1") in view of Inoue (US Patent No. 5,214,312) and further in view of Tomosugi (JP 57099042).

Regarding claim 1, reference 1 shows a system for providing communications between communication devices located on different landmasses, comprising:

first (401) and second (402) cables, wherein each of said first and second cables further comprises one or more data signal carrying lines and an electrical power conductor, wherein said first cable carries data signals between communication devices of a first landmass (B) and a second landmass (A), and said second cable carries data signals between communication devices of the first landmass (B) and a third landmass (C) said first landmass being, separated from said second and third landmasses by a body of water (since the prior art show undersea communication network, therefore it would have been obvious that the communication system communicates data; furthermore, Fig. 2 of reference 1 shows cross-sectional section of the underwater cable which comprise of power conductor (203) and optical fibers (202) to carry data signals),

a first piece of power feed equipment (403) having positive and negative terminals located on the second landmass (A) wherein said positive terminal of said first

piece of power feed equipment is electrically connected to said electrical power conductor of said first cable (Fig. 4 only shows positive terminal on the second landmass (A), however, it would have been obvious that there exist a negative terminal); and

a second piece of power feed (406) equipment having positive and negative terminals located on the third landmass (C) wherein said negative terminal of said second piece of power feed equipment is electrically connected to said electrical power conductor of said second cable (Fig. 4 only shows negative terminal on the third landmass (C), however, it would have been obvious that there exist a positive terminal).

Reference 1 discloses undersea communication system as discussed above and differs from the claimed invention in that reference 1 does not disclose an electrical power connector located on said first landmass and connecting said electrical power conductors of said first and second cables so that electrical current can flow between said first and second power feed equipment through said power conductors of said first and second cables, wherein no separate current source is coupled to said electrical power connector on said first landmass, and wherein said electrical power connector permanently connects said electrical power conductors of said first and second cables without providing a switch between said electrical power conductors of said first and second cables. Inoue is cited to show that branching unit connects power feed equipment so that current can flow between first and second cables through first and second cables. In Figs. 24A, 24B and 24C, Inoue shows different arrangement of current flow between different power feed equipment located on different landmass (AA,

BB or CC) of different transmission cables. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide connection between different power feed equipments as taught by Inoue et al to the underwater communication system of reference 1. For example, arrangement of Fig. 24B shows connecting power feed equipment of landmass BB and landmass CC. Such branching unit (power connector) can be located on landmass B of reference 1 to connect power feed equipment (403) and power feed equipment (406). One of ordinary skill in the art would have been motivated to provide such connection in order to provide alternate arrangement of power supply.

Furthermore, the combination of reference 1 and Inoue et al differs from the claimed invention in that the combination does not disclose electrical power connector permanently connects said electrical power conductors of said first and second cables without providing a switch between said electrical power conductors of said first and second cables connection without a switch. Tomosugi shows connecting power feed equipment of different landmass (1 and 2) without a switch (see Fig. 1). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide connection between power feed equipment without a switch as taught by Tomosugi. One of ordinary skill in the art would have been motivated to do such in order to provide permanent connection.

Regarding claim 3, the combination of reference 1, Inoue and Tomosugi shows positive terminal of first power feed equipment and negative terminal of second power feed equipment coupled to the cables (see Fig. 4 of reference 1) and differs from the

claimed invention in that the combination does not show the negative terminal of said first piece of power feed equipment and said positive terminal of said second piece of power feed equipment are electrically connected to a ground potential. However, it well known to coupled the other terminal to ground potential in order to form common ground for both power feed equipments.

Regarding claim 4, as shown in Fig. 4, reference 1 shows the first (401) and second cables (402) carry optical signals, and each includes one or more optical repeaters (103).

Regarding claim 5, as shown in Fig. 4, reference 1 shows end of said first cable (401) and an end of said second cable (402) enter onto a first landmass (B) at a common landing point (the common landing point is landmass (B)).

Regarding claim 6, the combination of reference 1, Inoue and Tomosugi shows first and second cable at landmass (B) and differ from the claimed invention in that the combination does not specifically disclose that ends of said first and second cables are routed to a cable station, and said electrical power connector is located in said cable station. However, since the cables disclosed by reference 1 and Inoue carry data and power, therefore it would have been obvious that the first and second cable are routed to a cable station. One of ordinary skill in the art would have been motivated to route the cables to a cable station in order to provide services to customers.

Regarding claim 7, the combination of reference 1, Inoue and Tomosugi shows plurality of data carrying lines (see Fig. 2 of reference 1) and differs from the claimed invention in that the combination does not specifically disclose that the data lines are

communicatively coupled to a communication device of a first communication network located on the first landmass. However, since the cables disclosed by reference 1 and Inoue carry data, therefore it would have been obvious that the data lines are communicatively coupled to communication device. Furthermore, it would have been obvious that the communication networks are located on a landmass such as first landmass.

Regarding claim 8, the combination of reference 1, Inoue and Tomosugi shows plurality of data carrying lines (see Fig. 2 of reference 1) for carrying data signals and differs from the claimed invention in that the combination does not specifically disclose that one or more data signal carrying lines of said first cable are communicatively coupled using a converter for converting between optical and electrical signals. However, since the submarine cable carries optical signal and the customer premise, which receives the signal, operates in electrical domain, therefore, it would have been obvious to provide converter in order to convert the optical signal to an electrical signal.

Regarding claim 9, as shown in Fig. 4, reference 1 shows that signal carrying lines of said first cable (401) are communicatively isolated from said signal carrying lines of said second cable (402) (since the signal carrying lines of the first and second cable are not connected, therefore, they are communicatively isolated).

Regarding claim 10, the combination of reference 1, Inoue and Tomosugi shows different landmasses (A, B, C) coupled by different signal carrying cables (401, 402) (see Fig. 4 of reference 1) and differs from the claimed invention in that the combination does not specifically disclose that the signal carrying lines of said first cable carry

different signals from signals carried on said signal carrying lines of said second cable. However, since the cables are coupled to different landmasses comprising of customer, therefore it would have been obvious that the cables carry different signal in order to provide various services to the customer.

Regarding claim 11, reference 1 shows a system for providing communications between communication devices located on different landmasses, comprising:

a first cable station located on a first landmass (B), having a first piece of power feed equipment (403) (since the cables (401 or 402) carry data, therefore it would have been obvious that there exist a cable station to receive the data signal);

a second cable station located on a second landmass (C), having a second piece of power feed equipment (406) (since the cables (401 or 402) carry data, therefore it would have been obvious that there exist a cable station to receive the data signal);

a plurality of cable segments (401 and 402), each connecting communication networks of two landmasses (A and C), wherein each of said plurality of cable segments includes an electrical power conductor (see Fig. 2 for cross-sectional view of the cable comprising of power conductor (203) and data lines signal (202)) and one or more data signal carrying lines, and wherein said electrical power conductors of said plurality of cable segments are electrically connected in series between a positive terminal of said first piece of power equipment (403) and a negative terminal of said second piece of power feed equipment (406);

one additional landmass (B), said at least one additional landmass being separated from said first and second landmasses by a body of water.

Reference 1 discloses undersea communication system as discussed above and differs from the claimed invention in that reference 1 does not disclose an electrical power connector located on said first landmass and connecting said electrical power conductors of said first and second cables so that electrical current can flow between said first and second power feed equipment through said power conductors of said first and second cables, wherein no separate current source is coupled to said electrical power connector on said first landmass, and wherein said electrical power connector permanently connects said electrical power conductors of said first and second cables without providing a switch between said electrical power conductors of said first and second cables. Inoue is cited to show that branching unit connects power feed equipment so that current can flow between first and second cables through first and second cables. In Figs. 24A, 24B and 24C, Inoue shows different arrangement of current flow between different power feed equipment located on different landmass (AA, BB or CC) of different transmission cables. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide connection between different power feed equipments as taught by Inoue et al to the underwater communication system of reference 1. For example, arrangement of Fig. 24B shows connecting power feed equipment of landmass BB and landmass CC. Such branching unit (power connector) can be located on landmass B of reference 1 to connect power feed equipment (403) and power feed equipment (406). One of ordinary skill in the art would have been motivated to provide such connection in order to provide alternate arrangement of power supply.

Furthermore, the combination of reference 1 and Inoue et al differs from the claimed invention in that the combination does not disclose electrical power connector permanently connects said electrical power conductors of said first and second cables without providing a switch between said electrical power conductors of said first and second cables connection without a switch. Tomosugi shows connecting power feed equipment of different landmass (1 and 2) without a switch (see Fig. 1). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide connection between power feed equipment without a switch as taught by Tomosugi. One of ordinary skill in the art would have been motivated to do such in order to provide permanent connection. Regarding claim 12, in Fig. , reference 1 shows one of said plurality of cable segments (401 or 402) includes a device (103) powered by an electrical current carried on said electrical power conductor of said one of said plurality of cable segments.

Regarding claim 13, in Fig. 2, reference 1 shows that the device is an optical repeater (103), and one of said data signal carrying lines within said one of said plurality of cable segments is an optical fiber (see page 3 of specification).

Regarding claim 14, in Fig. 4, reference 1 shows that the data signal carrying lines of one of said plurality of cable segments includes a plurality of continuous optical fibers.

Regarding claim 15, in Fig. 4, reference 1 shows that the data signal carrying lines of said plurality of cable segments are not connected in series between said first and second cable stations.

Regarding claims 20 and 22, as discussed above, the combination of reference 1, Inoue and Tomosugi discloses branching unit for connecting cables of different landmasses and differ from the claimed invention in that the combination does not specifically disclose that the electrical power connector (branching unit) comprises an insulated copper cable. However, it is well known that electrical signal traveling on copper generates electromagnetic filed. Such field causes interference with other electronic devices. Therefore, based on this it would have been obvious to provide insulator to the copper lines in order to reduce or eliminate electromagnetic interference.

Regarding claims 21 and 23, the combination of reference 1, Inoue and Tomosugi shows electrical power connector comprises a power conductor of a connector cable segment, said connector cable segment comprising one or more lines configured for carrying data signals (see Fig. 24A, 24B and 24C; Inoue shows that the branching unit or power connector comprises one or more lines for carrying data signal).

Response to Arguments

6. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kojima et al (US Patent No. 6,157,098) is cited to show feed line connection circuit and optical transmission system.

Spagnoletti al (US Patent No. 6,496,626) is cited to show telecommunications system power supply.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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DS
March 29, 2006

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